

WE CLAIM:

1. A machine for packaging a plurality of containers into packages using flexible carrier stock, the machine comprising:

a feed drum adapted to feed the flexible carrier stock;

a jaw drum adapted to draw the flexible carrier stock from the feed drum

and apply the flexible carrier stock to the plurality of containers;

a turner/diverter adapted to forward packages in a desired alignment;

and

a controller adapted to electronically coordinate the movement of the feed drum, the jaw drum and the turner/diverter.

2. The machine of Claim 1 further comprising:

a cutoff wheel for dividing the carrier stock into packages.

3. The machine of Claim 2 wherein the cutoff wheel further comprises:

a plurality of knives;

a coded marking system associated with each knife of the plurality of knives, the coded marking system adapted to indicate a proper arrangement of the plurality of knives based upon a configuration of the package.

4. The machine of Claim 1 wherein the turner/diverter further comprises:

a plurality of lugs; and

a coded marking system associated with each lug of the plurality of lugs, the coded marking system adapted to indicate a proper arrangement of the plurality of lugs based upon a configuration of the package.

5. The machine of Claim 4 wherein the plurality of lugs are interchangeably positionable in a plurality of lug mounts, each lug mount having a corresponding coded marking system.

6. The machine of Claim 1 wherein the jaw drum is adapted to slide at an angle relative to a flow of the containers.

7. The machine of Claim 1 further comprising:

a motor connected with the jaw drum, the motor automatically adjusting a distance between each pair of jaws of a plurality of jaw pairs within the jaw drum.

8. The machine of Claim 1 further comprising:

a feed trough connected to the jaw drum for feeding the flexible carrier stock to the jaw drum; and

a proximity sensor connected between the feed trough and the jaw drum to detect a connection of the feed trough to the jaw drum.

9. A machine for packaging a plurality of containers using flexible carrier stock, the machine comprising:

a feed drum adapted to feed the flexible carrier stock;
a jaw drum adapted to draw the flexible carrier stock from the feed drum and apply the flexible carrier stock to the plurality of containers; and
a controller and an electronic drive adapted to coordinate the movement of the feed drum and the jaw drum.

10. The machine of Claim 9 further comprising:

a turner/diverter adapted to forward packages in a desired discharge pattern, the turner/diverter further connected with respect to the controller and the electronic drive to coordinate a speed of the turner/diverter with a speed of the jaw drum and a speed of the feed drum.

11. The machine of Claim 9 wherein the jaw drum is adapted to move a first distance in a direction transverse to a flow of the flexible carrier stock and a second distance with the flow of the flexible carrier stock.

12. The machine of Claim 9 further comprising:

an orienter adapted to orient containers, the controller and the electronic drive electrically connected to the orienter to coordinate a speed of the orienter with a speed of the feed drum.

13. The machine of Claim 9 further comprising:
a star wheel adapted to feed containers to the jaw drum, the star wheel
mechanically connected to the jaw drum.
14. The machine of Claim 9 wherein the jaw drum further comprises:
an adjustment mechanism for adjusting the distance between each pair
of jaws in the plurality of jaw pairs.
15. The machine of Claim 9 further comprising:
one or more linear actuators associated with the jaw drum and adapted to
adjust a vertical height of the jaw drum.
16. The machine of Claim 9 wherein the jaw drum further comprises:
a motor connected with the jaw drum, the motor automatically adjusting
a distance between each jaw pair of the plurality of jaw pairs within the jaw drum to
apply the flexible carrier stock to different carrier or container configurations.
17. The machine of Claim 16 further comprising:
a feed trough connected to the jaw drum; and
a proximity sensor connected between the feed trough and the jaw drum,
the proximity sensor preventing movement of the motor when the feed trough is
improperly positioned.

18. The machine of Claim 9 further comprising:
a turner/diverter connected downstream of the jaw drum and adapted to forward packages in a desired discharge pattern, the turner/diverter comprising a flexible belt having interchangeable lugs.

19. A system for packaging a plurality of containers into packages using flexible carrier stock, the system comprising:

a feed drum feeding the flexible carrier stock;
a jaw drum positioned next to the feed drum and drawing the flexible carrier stock from the feed drum for application to the plurality of containers;
an electronic drive connected with respect to the feed drum and the jaw drum for coordinating the movement of the feed drum and the jaw drum.

20. The system of Claim 19 further comprising:
a turner/diverter forwarding and aligning the packages of containers, the turner/diverter electronically coordinated with the feed drum and the jaw drum.

21. The system of Claim 20 further comprising:
one or more lugs positioned within the turner/diverter, the lugs adjustable between positions based upon a configuration of packages received from the jaw drum.

22. The system of Claim 19 further comprising:
a cam positioned in the jaw drum for adjusting a distance between each
jaw pair within the jaw drum.

23. The system of Claim 22 further comprising:
one or more motors with feedback connected with the cam for changing
a physical configuration of the jaw drum based upon a size of the plurality of
containers or a configuration of packages desired.

24. The system of Claim 19 further comprising:
a motor connected with respect to the jaw drum and the drive system for
coordinating a spacing of jaw pairs within the jaw drum.

25. A machine for packaging a plurality of containers into packages
using flexible carrier stock, the machine comprising:
an input conveyor for supplying the plurality of containers
an orienter for rotating each container of the plurality of containers into
an oriented position;
a jaw drum adapted to apply the flexible carrier stock to the plurality of
containers; and
a controller for electronically coordinating movement of the orienter
with the jaw drum.

26. The machine of Claim 25 further comprising:
an electronic drive in communication with the controller, the electronic
drive including a master motor connected with the orienter and at least one additional
motor exchanging feedback with the master motor.

27. The machine of Claim 26 wherein the at least one additional
motor is connected with respect to the jaw drum.

28. The machine of Claim 26 wherein the at least one additional
motor is connected with respect to a feed drum, the feed drum providing the flexible
carrier stock to the jaw drum.

29. The machine of Claim 26 wherein the at least one additional
motor is connected with respect to a turner/diverter, the turner/diverter connected
downstream of the jaw drum and adapted to forward packages in a desired discharge
pattern

30. The machine of Claim 26 wherein the at least one additional
motor is connected with respect to the input conveyor.

31. A machine for packaging a plurality of containers into packages
using flexible carrier stock, the machine comprising:

an input conveyor for supplying the plurality of containers

an orienter for rotating each container of the plurality of containers into an oriented position;

a controller for electronically coordinating movement of the orienter with at least one other component of the machine; and

an electronic drive in communication with the controller, the electronic drive including a master motor connected with the orienter and at least one additional motor connected with the at least one other component of the machine, the at least one additional motor exchanging feedback with the master motor.

32. The machine of Claim 31 wherein the at least one other component of the machine comprises a jaw drum.

33. The machine of Claim 31 wherein the at least one other component of the machine comprises a turner/diverter.

34. The machine of Claim 31 wherein the at least one other component of the machine comprises the input conveyor.